Lloyd's Register

Rules and Regulations for the Classification of Ships, July 2008

Notice No. 11

Effective Date of Latest Amendments:

See page 1

Issue date: April 2009

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RULES AND REGULATIONS FOR THE CLASSIFICATION OF SHIPS, *July 2008*

Notice No. 11

This Notice contains amendments within the following Sections of the *Rules and Regulations for the Classification of Ships, July 2008.* The amendments are effective on the dates shown:

Part	***Chapter***	***Section***	***Effective date***
1	1	1, 2, 3, 4, 5, 7, 8	1 April 2009
1	2	1, 2, 3, 4	1 April 2009
3	3	4	Corrigenda
3	13	2	Corrigenda
6	1	2	Corrigendum
7	15	5	Corrigendum

It will be noted that the amendments also include corrigenda, which are effective from the date of this Notice.

The *Rules and Regulations for the Classification of Ships, July 2008* are to be read in conjunction with this Notice No. 11. The status of the Rules is now:

Rules for Ships	Effective date:	July 2008
Notice No. 1	Effective dates:	1 August 2008 & Corrigenda
Notice No. 2	Effective dates:	1 January 2009 &Corrigenda
Notice No. 3	Effective dates:	1 November 2008 & Corrigenda
Notice No. 4	Effective dates:	1 May 2007 & 1 July 2008
Notice No. 5	Effective dates:	1 January 2009 & Corrigenda
Notice No. 6	Effective dates:	1 January 2009 & Corrigenda
Notice No. 7	Effective date:	1 January 2009
Notice No. 8	Effective date:	1 March 2009 & Corrigenda
Notice No. 9	Effective date:	1 July 2009
Notice No. 10	Effective dates:	1 July 2009 & Corrigendum
Notice No. 11	Effective dates:	1 April 2009 & Corrigenda

Part 1, Chapter 1

General Regulations

Effective date 1 April 2009

■ *Section 1*

1.1 Lloyd's Register (hereinafter referred to as 'LR'), which is recognised under the laws of the United Kingdom as a corporate body and a charity established for the benefit of the community, was founded in 1760. It was established for the purpose of producing a faithful and accurate ~~Classification of Merchant Shipping~~ classification of merchant shipping. It now primarily produces ~~Classification~~ classification Rules.

■ *Section 2*

2.1 LR remains the sole classification society in the LR Group. LR is managed by a Board of Trustees (hereinafter referred to as 'the Board').

The Board has:

~~Appointed~~ appointed a Classification Committee and determined its powers and functions and authorised it to delegate certain of its powers to a Classification Executive and Devolved Classification Executives;
~~Appointed~~ appointed Technical Committees and determined their powers, functions and duties.

■ *Section 3*

3.1 LR's Technical Committee is at present composed of a maximum of 80 members which includes:

Ex officio members:	~~TOTAL~~
• ~~The~~ Chairman and Chief Executive Officer of LR	~~1~~
• ~~The~~ Chairman of the Classification Committee of LR	~~1~~
Members Nominated by:	
~~• The Board~~	~~18~~
• Technical Committee	
• ~~The~~ Royal Institution of Naval Architects	2
• ~~The~~ Institution of Engineers and Shipbuilders in Scotland	2
• ~~The~~ Institute of Marine, Engineering, Science and Technology	2
• Institute of Materials, Minerals and Mining	1
• Honourable Company of Master Mariners	2
• Institution of Engineering and Technology	1
• Institute of Refrigeration	1
• Welding Institute	1
~~• The Institution of Mechanical Engineers~~	~~2~~
• ~~The~~ Shipbuilders' and Shiprepairers' Association	2
~~• The Short Sea Group of the Chamber of Shipping~~	~~1~~
• The Society of Consulting Marine Engineers and Ship Surveyors	~~1~~
• Community of European Shipyards Associations	1
• Society of Maritime Industries	2
• European Marine Equipment Council	1
• Chamber of Shipping	1
~~• The Institute of Materials~~	~~1~~
~~• The UK Steel Association~~	~~1~~
~~• The Honourable Company of Master Mariners~~	~~2~~
~~• The Institution of Electrical Engineers~~	~~1~~
~~• Federation of British Electrotechnical and Allied Manufacturers' Associations~~	~~1~~
~~• The Technical Committee~~	~~18~~
~~• The Technical Committee (from other countries)~~	~~18~~
~~• The Institute of Refrigeration~~	~~1~~
~~• International Oil Companies~~	~~2~~
~~• Association of European Shipbuilders and Shiprepairers~~	~~1~~
• Greek Shipping Co-operation Committee	1
• International Association of Oil and Gas Producers	1
	~~79~~

3.2 In addition to the foregoing:
(a) Each National or Area Committee may appoint a representative to attend meetings of the Technical Committee.
(b) A maximum of five representatives from National Administrations may~~, with the consent of the Technical Committee,~~ be co-opted to serve on the Technical Committee. ~~Such representatives~~ Representatives from National Administrations may also be elected as members of the Technical Committee under one of the categories identified in 3.1.
(c) Further persons may~~, with the consent of the Technical Committee,~~ be co-opted to serve on the Technical Committee by the Technical Committee.

~~*3.4* The function of the Technical Committee is to consider any technical problems connected with LR's business and with the exception of changes necessitated by mandatory implementation of International Conventions, Codes or Unified Requirements adopted by the International Association of Classification Societies, any proposed alterations in the existing Rules and to frame new Rules for classification as deemed necessary.~~

3.4 The function of the Technical Committee is to consider:
(a) any technical issues connected with LR's marine business;
(b) any proposed alterations in the existing Rules;
(c) any new Rules for classification;
Where changes to the Rules are necessitated by mandatory implementation of International Conventions, Codes or Unified Requirements adopted by the International Association of Classification Societies these may be implemented by LR without consideration by the Technical Committee.

3.5 The term of office of the Chairman and of all members of the Technical Committee is five years. Members may be re-elected to serve ~~one~~ an additional term of office with the approval of the Board. The term of office of the Chairman may be extended with the approval of the Board.

3.6 In the case of continuous non-attendance of a member, the Technical Committee may withdraw ~~his/her~~ membership.

3.7 Meetings of the Technical Committee are convened as often and at such times and places as is necessary, but there is to be at least one meeting in each year. Urgent matters may be considered by the Technical Committee by correspondence.

3.8 Any proposal ~~of the Technical Committee~~ involving any alteration in, or addition to, Part 1, Chapter 1 of Rules for Classification is subject to approval of the Board. All other proposals for additions to or alterations to the Rules for Classification other than Part 1, Chapter 1, will~~,~~ following consideration and approval by the Technical Committee~~,~~ either at a meeting of the Technical Committee or by correspondence, be ~~submitted~~ recommended to the Board for adoption.

■ *Section 4*

4.1 LR's Naval Ship Technical Committee ~~(hereinafter referred to as 'the NSTC')~~ is at present composed of ~~up to~~ a maximum of 50 members and includes ~~nominees of~~:
Ex officio members
- Chairman and Chief Executive Officer of LR

Member nominated by:
- Naval Ship Technical Committee;
- The Royal Navy and the UK Ministry of Defence;
- ~~The Defence Evaluation and Research Agency;~~
- UK Shipbuilders, Ship Repairers and Defence Industry;
- Overseas Navies, Governments and Governmental Agencies;
- Overseas Shipbuilders, Ship Repairers and Defence Industries;
- ~~Various maritime bodies and institutions, nominated by the NSTC;~~
- ~~The Chairman of LR and Chairman of the Classification Committee who are *ex officio* members.~~

4.3 All members of the ~~NSTC~~ Naval Ship Technical Committee are to hold security clearance from their National Authority for the equivalent of NATO CONFIDENTIAL. All material is to be handled in accordance with NATO Regulations or, for non-NATO countries, an approved equivalent. No classified material shall be disclosed to any third party without the consent of the originator.

4.4 The term of office of the ~~NSTC~~ Naval Ship Technical Committee Chairman and of all members of the ~~NSTC~~ Naval Ship Technical Committee is five years. Members may be re-elected to serve ~~one~~ an additional term of office with the approval of the Board. The term of the Chairman may be extended with the approval of the Board.

4.5 In the case of continuous non-attendance of a member, the ~~NSTC~~ Naval Ship Technical Committee may withdraw ~~that person's~~ membership.

4.6 The function of the ~~NSTC~~ Naval Ship Technical Committee is to consider technical issues connected with Naval Ship matters and to approve proposals for new Naval Ship Rules, or amendments to existing Naval Ship Rules.

4.7 Meetings of the ~~NSTC~~ Naval Ship Technical Committee are convened as necessary but there will be at least one meeting per year. Urgent matters may be considered by the Naval Ship Technical Committee by correspondence.

~~*4.8* Following approval by the NSTC, details of new Rules (or amendments) will be submitted to the Board for adoption.~~

4.8 Any proposal involving any alteration in, or addition to, Part 1, Chapter 1 of Rules for Classification of Naval Ships is subject to approval of the Board. All other proposals for additions to or alterations to the Rules for Classification of Naval Ships, other than Part 1, Chapter 1, will following consideration and approval by the Naval Ship Technical Committee, either at a meeting of the Naval Ship Technical Committee or by correspondence, be recommended to the Board for adoption.

4.9 The Naval Ship Technical Committee is empowered to:
(a) appoint sub-Committees or panels; and
(b) co-opt to the Naval Ship Technical Committee, or to its sub-Committees or panels, representatives of any organization or industry or private individuals for the purpose of considering any particular problem.

■ *Section 5*

(Part only shown)

5.1 LR has the power to adopt, and publish as deemed necessary, Rules relating to ~~Classification~~ classification and has (in relation thereto) provided the following:
(c) All reports of survey are to be made by ~~Surveyors~~ surveyors authorised by members of the LR Group to survey and report (hereinafter referred to as 'the Surveyors') according to the form prescribed, and submitted for the consideration of the Classification Committee.

■ *Section 7*

7.1 LR has the power to withhold or, if already granted, to suspend or withdraw any ship from class (or to withhold any certificate or report in any other case), in the event of non-payment of any fee to any member of the LR Group.

■ *Section 8*

8.1 When providing services LR does not assess compliance with any standard other than the applicable LR Rules, international conventions~~,~~ and other standards agreed in writing.

Part 1, Chapter 2

Classification Regulations

Effective date 1 April

■ *Section 1*

Conditions for classification

1.1 General

1.1.2 Ships built in accordance with LR's Rules and Regulations, or in accordance with requirements equivalent thereto, will be assigned a class in the *Register Book* and will continue to be classed as long as they are found, upon examination at the prescribed surveys, to be maintained in accordance with the requirements of the Rules. Classification will be conditional upon compliance with LR's requirements for both hull and machinery and with the Certification Requirements of 1.1.

1.1.3 The Classification Committee, in addition to requiring compliance with LR's Rules, may require to be satisfied that ships are suitable for the geographical or other limits or conditions of the service contemplated.

1.1.5 Any damage, defect, breakdown ~~or~~ grounding, serious deficiency, detention or arrest which could invalidate the conditions for which a class has been assigned, is to be reported to LR without delay. ~~Any detention or arrest is also to be reported to LR without delay.~~

1.1.6 The Rules are framed on the understanding that ships will be properly loaded and handled. They do not, unless stated or implied in the class notation, provide for special distributions or concentrations of loading. The Classification Committee may require additional strengthening to be fitted in any ship which, in their opinion, would otherwise be subjected to severe stresses due to particular features in the design, or where it is desired to make provision for exceptional loaded or ballast conditions. In such cases, particulars are to be submitted for consideration.

(Part only shown)
1.1.9 For ships, the arrangements and equipment of which are required to comply with the requirements of the:

- International Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code);

and applicable Amendments thereto, the Classification Committee requires the applicable Convention Certificates to be issued by a National Administration, or by LR, or by an IACS Member when so authorised. Safety Management Certificates in accordance with the provisions of the International Safety Management Code (ISM Code) may be issued by an organization complying with IMO Resolution A.739(18) and authorised by the National Authority with which the ship is registered. Cargo Ship Radio Certificates may be issued by an organization authorised by the National Administration with which the ship is registered. In the case of dual-classed ships, Convention Certificates may be issued by the other Society with which the ship is classed provided this is recognised in a formal Dual Class Agreement with LR and provided the other Society is also authorised by the National Administration. In the event of a National Administration withdrawing any ship's Convention Certificate (referred to in this section) then the ~~committee~~ Classification Committee may suspend the ship's class. ~~However if~~ If a ship is removed from the National Administration's Registry for the non-compliance with the Conventions or Classification Requirements referred to herein then the Classification Committee will suspend the ship's class. In the event of ISM Code certification being withdrawn from a ship or Operator then the Classification Committee will suspend the ship's class.

1.1.12 Where a ship has been detained by Port State Control the Owner is to advise ~~the Society~~ LR immediately in order to arrange the attendance of a Surveyor.

1.2 Advisory services

1.2.1 The Rules do not cover certain technical characteristics, such as stability, trim, hull vibration, etc., but ~~the Committee is willing to advise~~ advice may be given on such matters ~~although it cannot assume~~ without any assumption of responsibility for ~~them~~ such advice.

~~*1.2.2* Where a vessel is so badly damaged that class has to be suspended, LR is prepared to assist the Owner with advice if requested.~~

■ *Section 2*

Character of classification and class notations

2.1 Definitions

2.1.10 **Service restriction notation**. A notation indicating that a ship has been classed on the understanding that it will be operated only in suitable areas or conditions which have been agreed by the Classification Committee, e.g. protected waters service.

2.2 Character symbols

(Part only shown)
2.2.2 A full list of character symbols for which ships may be eligible is as follows:

✠ This distinguishing mark will be assigned, at the time of classing, to new ships constructed under LR's Special Survey, in compliance with the Rules, and to the satisfaction of the Classification Committee.

1 This character figure will be assigned to:

(a) Ships having on board, in good and efficient condition, anchoring and/or mooring equipment in accordance with the Rules.

(b) Ships classed for a special service, having on board, in good and efficient condition, anchoring and/or mooring equipment approved by the Classification Committee as suitable and sufficient for the particular service.

N This character letter will be assigned to ships on which the Classification Committee has agreed that anchoring and mooring equipment need not be fitted in view of their particular service.

T This character letter will be assigned to ships which are intended to perform their primary designed service function only while they are anchored, moored, towed or linked, and which have, in good and efficient condition, adequately attached anchoring, mooring, towing or linking equipment which has been approved by the Classification Committee as suitable and sufficient for the intended service.

2.3 Class notations (hull)

2.3.1 When considered necessary by the Classification Committee, or when requested by an Owner and agreed by the Classification Committee, a class notation will be appended to the character of classification assigned to the ship. This class notation will consist of one of, or a combination of: a type notation, a cargo notation, a special duties notation, a special features notation and/or a service restriction notation, e.g. '✠100A1 Oil Tanker F.P. exceeding 60°C in No. 4 tanks ESP Baltic Service Ice Class 1B'.

(Part only shown)
2.3.16 **ShipRight notations**. The following notations are associated with LR's ShipRight procedures and may be assigned in conjunction with the **ShipRight** notation as considered appropriate by the Classification Committee, on application from the Owners. The requirements pertaining to these notations and the (hull) ShipRight procedures are given in Pt 3, Ch 16.

2.4 Class notations (machinery)

(Part only shown)
2.4.1 The following class notations are associated with the machinery construction and arrangement, and may be assigned as considered appropriate by the Classification Committee:

[✠] LMC This notation will be assigned when the propelling arrangements, steering systems, pressure vessels and the electrical equipment for essential systems have been constructed, installed and tested under LR's Special Survey and are in accordance with LR's Rules and Regulations. Other items of machinery for propulsion and electrical power generation including propulsion gearing arrangements and other auxiliary machinery for essential services that are in compliance with LR Rules and supplied with the manufacturer's certificate will be acceptable under this notation. The system arrangements of propelling and essential auxiliary machinery are required to be appraised by LR, and found to be acceptable to LR. *See* Section 2.8.2 below.

MCH This notation will be assigned when the propelling and essential auxiliary machinery has been installed and tested under LR's survey requirements and found to be acceptable to LR. Items of machinery and equipment for propelling and auxiliary machinery for essential services supplied with the manufacturer's certificate will be acceptable under this class notation. The system arrangements of propelling and essential auxiliary machinery are required to be appraised by LR, and found to be acceptable to LR. *See* Section 2.8.3 below.

(Part only shown)
2.4.2 The following class notations are associated with the machinery control and automation, and may be assigned as considered appropriate by the Classification Committee:

(Part only shown)
2.4.3 The following class notations are associated with dynamic positioning arrangements, and may be assigned as considered appropriate by the Classification Committee:

(Part only shown)
2.4.4 The following class notations are associated with navigation safety, and may be assigned as considered appropriate by the Classification Committee:

(Part only shown)
2.4.5 The following class notation is associated with on-shore power supply arrangements and may be assigned as considered appropriate by the Classification Committee, on application from the Owners:

2.5 Class notations (refrigerated cargo installations (RMC), controlled atmosphere (CA) systems and carriage of refrigerated containers (CRC))

(Part only shown)
2.5.1 The following class notations may be assigned as considered appropriate by the Classification Committee, on application from the Owners:

(Part only shown)
2.5.2 The following class notations are associated with controlled atmospheres and may be assigned as considered appropriate by the Classification Committee, on application from Owners, *see also* Pt 7, Ch 1:

(Part only shown)
2.5.3 The following class notation is associated with the carriage of refrigerated cargo containers and may be assigned as considered appropriate by the Classification Committee, on application from Owners, *see also* Pt 7, Ch 10:

2.5.6 The Classification Committee will give consideration to ships engaged on voyages of short duration, to installations of small capacity, or to other special circumstances. In such cases the class may include a service limitation or other restriction.

2.6 Class notations (Environmental Protection)

(Part only shown)
2.6.1 The following class notations are associated with the design and operation of a ship and may be assigned as considered appropriate by the Classification Committee, on application from the Owners:

2.7 Descriptive notes

2.7.1 In addition to any class notations, an appropriate descriptive note may be entered in column 6 of the *Register Book* indicating the type of ship in greater detail than is contained in the class notation, and/or providing additional information about the ship's design and construction. This descriptive note is not an LR class notation and is provided solely for ~~the~~ information ~~of users of the *Register Book*~~.

2.8 Application notes

(Part only shown)
2.8.2 **Manufacturer's certificate** for assignment of the **[✠]LMC** notation. Acceptance of the manufacturer's certificate for items of machinery for propulsion (including propulsion gearing with single input/output arrangements) and for electrical power generation and for other auxiliary machinery for essential services is subject to the following:

(a) The ship is a cargo ship of less than 500 gross tonnage or is a ship of 500 gross tonnage or greater and is not required to comply with international conventions applicable to a ship with unrestricted service.
(b) Propulsion power is provided by oil engines or gas turbines which have been type approved ~~to~~ in accordance with LR requirements for marine application.
(c) Electrical power is provided by generators driven by oil engines or gas turbines which have been type approved ~~to~~ in accordance with LR requirements for marine application.
(d) The design and manufacture standards for all machinery and associated engineering systems are the applicable LR Rules.

(Part only shown)
2.8.3 **Manufacturer's certificate** for assignment of the **MCH** notation. Acceptance of the manufacturer's certificate for propelling and essential auxiliary machinery is subject to the following:

(a) The ship is a cargo ship of less than 500 gross tonnage or is a ship of 500 gross tonnage or greater and is not required to comply with the international conventions applicable to a ship with unrestricted service.
(b) Propulsion power is provided by oil engines or gas turbines which have been type approved ~~to~~ in accordance with LR requirements for marine application.
(c) Electrical power is provided by generators driven by oil engines or gas turbines which have been type approved ~~to~~ in accordance with LR requirements for marine application.

■ *Section 3*
Surveys – General

3.1 Statutory surveys

3.1.1 The Classification Committee will act, when authorised on behalf of Governments, in respect of National and International statutory safety and other requirements for passenger and cargo ships.

3.1.2 The Classification Committee will also act, when authorised, in respect of National Safety and other requirements relating to ships used for offshore mineral exploration and exploitation.

3.2 New construction surveys

3.2.1 When it is intended to build a ship for classification with LR, constructional plans and all necessary particulars relevant to the hull, equipment and machinery, as detailed in the Rules, are to be submitted for ~~the~~ approval ~~of the Committee~~ before the work is commenced. Any subsequent modifications or additions to the scantlings, arrangements or equipment shown on the approved plans are also to be submitted for approval.

3.2.2 Where the proposed construction of any part of the hull or machinery is of novel design, or involves the use of unusual material, or where experience, in the opinion of the Classification Committee, has not sufficiently justified the principle or mode of application involved, special tests or examinations before and during service may be required. In such cases a suitable notation may be assigned ~~entered in the *Register Book*~~.

3.2.3 The materials used in the construction of hulls and machinery intended for classification are to be of good quality and free from defects and are to be tested in accordance with the requirements of the Rules for Materials ~~(Part 2)~~. The steel is to be manufactured by an approved process at an approved works ~~recognised by the Committee~~. Alternatively, tests ~~to the satisfaction of the Committee~~ will be required to demonstrate the suitability of the steel.

3.2.7 Copies of approved plans (showing the ship as built), essential certificates and records, required loading and other instruction manuals are to be readily available for use when required by ~~LR's~~ the attending Surveyors, and may be required to be kept on board.

3.2.10 The date of completion of the Special Survey during construction of ships built under LR's inspection will normally be taken as the date of build to be entered in the *~~Register Book~~ LR Publication Record*. If the period between launching and commissioning is, for any reason, unduly prolonged, the dates of launching and completion or commissioning may be separately indicated in the *~~Register Book~~ LR Publications*.

3.2.11 When a ship, upon completion, is not immediately commissioned but is laid-up for a period, the Classification Committee, upon application by the Owner, prior to the ship proceeding to sea, will direct an examination to be made by ~~LR's~~ the Surveyors which may include a survey in dry-dock. If, as the result of such a survey, the hull and machinery be reported in all respects ~~free from deterioration~~ in accordance with applicable Rule requirements, the subsequent Special Survey and Complete Survey of the machinery will date from the time of such examination.

3.3 Existing ships

3.3.1 **Classification of ships not built under survey.** The requirements of the Classification Committee for the classification of ships which have not been built under LR's Survey are indicated in Ch 3,19. Special consideration will be given to ships transferring class to LR from another recognised Classification Society.

3.3.2 **Reclassification**. When reclassification or class reinstatement is desired for a ship for which the class previously assigned by LR has been withdrawn or suspended, the Classification Committee will direct that a survey, appropriate to the age of the ship and the circumstances of the case, be carried out by ~~LR's~~ the Surveyors. If, at such a survey, the ship be found or placed in a ~~good and efficient~~ condition in accordance with the requirements of the Rules and Regulations, the Classification Committee will be prepared to consider reinstatement of the original class or the assignment of such other class as may be deemed necessary.

3.3.4 The Classification Committee reserves the right to decline an application for classification or reclassification where the prior history or condition of the ship indicates this to be appropriate.

3.3.5 **Unscheduled surveys**. Where the Classification Committee has concern about the condition of a ship and/or the equipment an unscheduled survey may be required at any time to determine the actual condition.

3.4 Damages, repairs and alterations

3.4.1 All repairs to hull, equipment and machinery which may be required in order that a ship may retain her class, (*see* Section 1.1.5 above), are to be carried out to the satisfaction of ~~LR's~~ the Surveyors. When repairs are effected at a port, terminal or location where the services of a Surveyor to LR are not available, the repairs are to be surveyed by one of ~~LR's~~ the Surveyors at the earliest opportunity thereafter.

3.4.2 When, at any survey, the Surveyors consider repairs to be immediately necessary, either as a result of damage, or wear and tear, they are to communicate their recommendations at once to the Owner, or his representative. When such recommendations are not complied with, immediate notification is to be given to the Classification Committee by the Surveyors.

3.4.3 When, at any survey, it is found that any damage, defect or breakdown (*see* Section 1.1.5 above) is of a nature that does not require immediate permanent repair, but is sufficiently serious to require rectification by a prescribed date in order to maintain class, a suitable condition of class is to be imposed by the Surveyors and recommended to the Classification Committee for consideration.

3.4.6 Plans and particulars of any proposed alterations to the approved scantlings and arrangements of hull, equipment, or machinery are to be submitted for approval, and such alterations are to be carried out to the satisfaction of ~~LR's~~ the Surveyors.

3.5 Existing ships – Periodical Surveys

3.5.3 The Owner should notify LR whenever a ship can be examined in dry-dock or on a slipway. A minimum of two Docking Surveys are to be held in each five-year Special Survey period and the maximum interval between successive Docking Surveys is not to exceed three years. One of the two Docking Surveys required in each five year period is to coincide with the Special Survey. Consideration may be given in exceptional circumstances to an extension of this interval not exceeding three months beyond the due date. A definition of 'exceptional circumstances' is given in 3.5.9. The Classification Committee may accept an In-water Survey in lieu of the intermediate docking between Special Surveys, *see* Ch 3, 4.3.

An In-water Survey shall not be permitted for ships over 15 years of age that are assigned the notation **ESP**. A Docking Survey is considered to coincide with the Special Survey when held within the 15 months prior to the due date of the Special Survey.

Where the Special Survey of the hull is carried out on a Continuous Survey basis, as given in 3.5.14, the survey in dry-dock may be held at any time within the five-year cycle.

~~In this context 'exceptional circumstances' means unavailability of dry-docking facilities, repair facilities, essential materials, equipment or spare parts or delays incurred by action taken to avoid severe weather conditions.~~

3.5.4 The interval between dry-dockings for ships operating in fresh water and for certain non-self-propelled craft may be greater than that given in Section 3.5.3 above.

3.5.7 As an alternative to Annual Surveys and Docking Surveys, according to Sections 3.5.1 and 3.5.3 above respectively, ships classed '100A1 shipborne barge' may be subjected to Intermediate Surveys. These surveys become due 30 months after the previous Special Survey. The survey is to be in accordance with the requirements given in Ch 3,2, as applicable. Intermediate Surveys are to be completed within three months of the due date.

3.5.9 All ships classed with LR are also to be subjected to Special Surveys in accordance with the requirements given in Chapter 3. These Surveys become due at five-yearly intervals, the first one five years from the date of build or date of Special Survey for Classification as recorded in the *Register Book*, and thereafter five years from the date recorded for the previous Special Survey. Consideration may be given at the discretion of the Committee to any exceptional circumstances justifying an extension of the hull classification to a maximum of three months beyond the fifth year. If an extension is agreed, the next period of hull classification will start from the due date of the Special Survey before the extension was granted. ~~A definition of 'exceptional circumstances' is given in 3.5.3.~~ In this context 'exceptional circumstances' means unavailability of dry-docking facilities, repair facilities, essential materials, equipment or spare parts or delays incurred by action taken to avoid severe weather conditions.

3.5.13 Ships which have satisfactorily passed a Special Survey will have a record entered in the *Register Book* indicating the date and the notation **ESP** if this is applicable (*see* Section 2.3.12 above). Where the Special Survey is completed more than three months before the due date, the new record of Special Survey will be the final date of survey. In all other cases the date recorded will be the fifth anniversary.

3.5.14 At the request of an Owner, ~~the Committee~~ it may be ~~agree~~ agreed that the Special Survey of the hull, for ships other than general dry cargo ships, bulk carriers, combination carriers, chemical tankers and oil tankers, be carried out on the Continuous Survey basis, all compartments of the hull being opened for survey and testing, in rotation, with an interval of five years between consecutive examinations of each part. In general, approximately one fifth of the Special Survey is to be completed each year and all the requirements of the particular hull Special Survey must be completed at the end of the five year cycle. For examination of items listed in Ch 3,2.2.24 to 2.2.25, 2.2.29 and Ch 3,3.2.6, 3.2.7 and 3.2.9, the intervals for inspection will require to be specially agreed. For ships more than 10 years of age, an examination of the ballast tanks is to be carried out twice in each five year cycle, i.e. once within the scope of the Intermediate Survey and once within the scope of the Continuous Survey. Ships which have satisfactorily completed the cycle will have a record entered in the ~~*Register Book*~~ ClassDirect Live indicating the date of completion which will not be later than five years from the last assigned date of Complete Survey of the hull. The agreement for surveys to be carried out on Continuous Survey basis may be withdrawn at the discretion of the Classification Committee.

3.5.16 Complete Surveys of machinery become due at five-yearly intervals, the first one five years from the date of build or date of first classification as recorded in the ~~*Register Book*~~ ClassDirect Live, and thereafter five years from the date recorded for the previous Complete Survey. Consideration can be given at the discretion of the Committee to any exceptional circumstances justifying an extension of machinery class to a maximum of three months beyond the fifth year. If an extension is agreed, the next period of machinery class will start from the due date of Complete Survey of machinery before extension was granted. Surveys which are commenced prior to their due date are not to extend over a period greater than 12 months, except with the prior approval of the Classification Committee. Where the ~~complete~~ survey is completed more than three months before the due date, the recorded date of completion will be the final date of survey. In all other cases the date recorded will be the fifth anniversary.

3.5.17 Upon application by an Owner, the Classification Committee may agree to an extension of the survey requirements for main engines, which, by the nature of the ship's normal service, do not attain the number of running hours recommended by the engines' manufacturer for major overhauls within the survey periods given in Section 3.5.16 above.

3.5.19 When, at the request of an Owner, it has been agreed by the Classification Committee that the Complete Survey of the machinery may be carried out on the Continuous Survey basis, the various items of machinery are to be opened for survey in rotation, as far as practicable, to ensure that the interval between consecutive examinations of each item will not exceed five years. In general, approximately one-fifth of the machinery is to be examined each year.

3.5.21 Upon application by an Owner, the Classification Committee may agree to an arrangement whereby, subject to certain conditions, some items of machinery may be examined by the Chief Engineer of the ship at ports where LR is not represented, or, where practicable, at sea, followed by a limited confirmatory survey carried out at the next port of call where an Exclusive Surveyor is available. Particulars of this arrangement may be obtained from LR's Headquarters. Where an approved planned maintenance scheme is in operation the confirmatory surveys may be held at annual intervals, at which time the records will be checked and the operation of the scheme verified. Particulars of this arrangement may be obtained from any of LR's Offices.

3.5.22 Where condition monitoring equipment is fitted, the Classification Committee, upon application by the Owner, will be prepared to amend applicable Periodical Survey requirements where details of the equipment are submitted and found satisfactory. Where machinery installations are accepted for this method of survey, it will be a requirement that an Annual Survey be held, at which time monitored records will be analyzed and the machinery examined under working conditions. An acceptable lubricating oil trend analysis programme may be required as part of the condition monitoring procedures.

3.5.28 At the request of an Owner, the Classification Committee may give special consideration to the application of the periodical survey requirements given in Chapter 3 to military ships or commercial ships owned or chartered by Governments, which are utilised in support of military operation or service.

3.6 Certificates

3.6.1 When the required reports, on completion of the survey of new or existing ships which have been submitted for classification, have been received from the Surveyors and classification has been agreed by the Classification Executive a Certificate of Classification may be issued by an authorised surveyor. ~~and approved~~ After approval by the Classification Committee, a certificate of First Entry of Classification, signed by ~~the~~ LR's Chairman~~,~~ or the ~~Deputy Chairman and~~ Chairman of the ~~Sub-Committee of~~ Classification Committee, will be issued to Builders or Owners.

3.6.3 LR's Surveyors are permitted to issue provisional (interim) certificates to enable a ship classed with LR to proceed on her voyage (or to continue her service in the case of a fixed or tethered ship) provided that in their opinion it is in a fit and efficient condition. Such certificates will embody the Surveyors' recommendations for continuance of class, but in all cases are subject to confirmation by the Classification Committee.

3.7 Notice of surveys

3.7.1 It is the responsibility of the Owners to ensure that all surveys necessary for the maintenance of class are carried out at the proper time and in accordance with the instructions of the Classification Committee. Information is available to Owners on the ClassDirect Live website.

3.8 Withdrawal/Suspension of class

3.8.1 When the class of a ship, for which the Regulations as regards surveys on hull, equipment and machinery have been complied with, is withdrawn by the Classification Committee in consequence of a request from the Owner the notation 'Class withdrawn at Owner's request' (with date) will be assigned.

3.8.2 When the Regulations as regards surveys on hull, equipment or machinery have not been complied with and the ship is thereby not entitled to retain class, the class will be suspended or withdrawn, at the discretion of the Classification Committee, and a corresponding notation will be assigned.

3.8.4 Class will be automatically suspended from the expiry date of the Certificate of Class in the event that the Special Survey has not been completed by the due date and an extension has not been agreed (*see* Section 3.5.9 above), or is not under attendance by the Surveyors with a view to completion prior to resuming trading.

3.8.5 When, in accordance with Section 3.4.3 above of the Regulations, a condition of class is imposed, this will be assigned a due date for completion and the ship's class may be suspended if the condition of class is not dealt with, or postponed by agreement, by the due date.

3.8.6 When it is found, from the reported condition of the hull equipment machinery or arrangements of a ship, that an Owner has failed to comply with ~~Regulations~~ Sections 1.1.5, 1.1.9, 3.4.1 or 3.4.5 above, the class will be suspended or withdrawn, at the discretion of the Classification Committee, and a corresponding notation assigned. When it is considered that an Owner's failure to comply with these requirements is sufficiently serious, the suspension or withdrawal of class may be extended to include other ships controlled by the same Owner, at the discretion of the Classification Committee.

3.8.7 When the Classification Committee is satisfied that a ship proceeded to sea with less freeboard than that approved by the Classification Committee, or that the freeboard marks are placed higher on the sides of the ship than the position assigned or approved by the Classification Committee, or, in cases of ships where freeboards are not assigned, the draught is greater than that approved by the Classification Committee, the ship's class will be withdrawn or suspended in relation to the above voyage(s) concerned.

3.8.8 When the Classification Committee is satisfied that a specialised ship has been operated in a manner contrary to that agreed at the time of classification, or is being operated in environmental conditions which are more onerous or in areas other than those agreed by the Classification Committee, the ship's class will be withdrawn or suspended in relation to those operations.

3.8.9 Where a ship has been
- detained following a Flag State or Port State Control inspection on ~~two~~ one or more occasions ~~in a two year period,~~ with serious deficiencies found, or
- been subject to an unscheduled survey (*see* Section 3.3.5 above) with serious deficiencies found,

then ~~the~~ class will be liable to be suspended or withdrawn, at the discretion of the Classification Committee, and a corresponding notation will be assigned. In these cases, a period of notice, but not exceeding 3 months, may be given prior to any suspension or withdrawal of class.

~~*3.8.10* In all instances of class withdrawal or suspension, the assigned notation, with date of application, will appear in the *Register Book*. In cases where class has been suspended by the Committee and it becomes apparent that the Owners are no longer interested in retaining LR's class, the notation will be amended to withdrawn status. After class withdrawn status has been established in the *Register Book* for one year, it will be automatically amended to 'classed LR until' (with date).~~

3.8.10 In all instances of class withdrawal or suspension, the assigned notation, with date of application, will be published by members of the LR Group. In cases where class has been suspended by the Classification Committee and it becomes apparent that the Owners are no longer interested in retaining LR's class it will be withdrawn.

3.9 Appealing against Surveyors' recommendations

3.9.1 If the recommendations of ~~LR's~~ the Surveyors are considered in any case to be unnecessary or unreasonable, an appeal may be made to the Classification Committee, who may direct a Special Examination to be held.

3.10 Force majeure

3.10.1 If due to circumstances reasonably beyond the Owner's or LR's control, as defined below, the ship is not in a port when surveys become overdue the Classification Committee may allow the ship to sail, in class, directly to an agreed discharge port and then, if necessary, in ballast to an agreed repair facility at which the survey can be completed. In this context 'Force Majeure' means damage to the ship, unforeseen inability of Surveyors to attend the ship due to governmental restrictions on right of access or movement of personnel, unforeseen delays in port or inability to discharge cargo due to unusually lengthy periods of severe weather, strikes, civil strife, acts of war or other force majeure.

3.11 Ownership details

3.11.1 It is the responsibility of ~~each~~ the Owner to inform ~~LR~~ a member of the LR Group in writing of any change to its contact details and in the event of a ship sale to supply details of the new Owners. If the new Owner of a ship cannot be properly identified and the contact details established then the class of that ship will be specially considered by the Classification Committee. It is the responsibility of the new Owner to inform ~~LR~~ a member of the LR Group in writing of their contact details and that they are now responsible for the ship, if they fail to do so then the class of that ship will be specially considered by the Classification Committee.

■ *Section 4*

IACS ~~QSCS~~ and EMSA Audits and Assessments

4.1 Audit of surveys

4.1.1 The surveys required by the Regulations may be subject to audit or assessment in accordance with the requirements of the International Association of Classification Societies and European Maritime Safety Agency requirements ~~Quality System Certification Scheme~~.

Part 3, Chapter 3
Structural Design

CORRIGENDA

■ *Section 4*
Bulkhead requirements

4.2 Collision bulkhead

4.2.1 A collision bulkhead shall be fitted which shall be watertight up to the bulkhead deck. This bulkhead shall be located at a distance from the forward perpendicular of not less than ~~0,05*L*~~ 0,05L_{L} or 10 m, whichever is the less, and, except as may be permitted by the Administration, not more than ~~0,08*L*~~ 0,08L_{L} or ~~0,05*L*~~ 0,05L_{L} + 3 m, whichever is the greater.

4.2.2 Where any part of the ship below the waterline extends forward of the forward perpendicular, e.g., a bulbous bow, the distances stipulated in 4.2.1 shall be measured from a point either:
(a) at the mid-length of such extension;
(b) at a distance ~~0,015*L*~~ 0,015L_{L} forward of the forward perpendicular; or
(c) at a distance 3 m forward of the forward perpendicular,
whichever gives the smallest measurement.

Part 3, Chapter 13
Ship Control Systems

CORRIGENDUM

■ *Section 2*
Rudders

2.4 Rudder stock and main bearing

Table 13.2.3 Rudder stock diameter
(Part only shown)

Item	Requirement
(1) Basic stock diameter, δ_{S}, at and below lowest bearing	$\delta_{\mathrm{S}} = \delta_{\mathrm{t}} \sqrt[6]{1 + \frac{4}{3}\left(\frac{M_{\mathrm{B}}}{M_{\mathrm{T}}}\right)^2}$ mm
(2) Diameter, δ_{t}, in way of tiller	$\delta_{\mathrm{t}} = 4{,}2 \sqrt[3]{M_{\mathrm{T}} \cancel{k_0}}\, k_{\mathrm{o}}$ mm

Table 13.2.5 Permissible stresses *(Part only shown)*

Mode	Permissible stress, N/mm^2 (kgf/mm^2)	
(1) Torsional shear stress, τ_T	$68/\cancel{k_0}\,k_o$	$(6,9/\cancel{k_0}\,k_o)$
(2) Equivalent stress, σ_e	$118/\cancel{k_0}\,k_o$	$(12/\cancel{k_0}\,k_o)$

2.7 Rudder couplings

Table 13.2.10(b) Rudder couplings to stock – Conical couplings (*conclusion*) *(Part only shown)*

Symbols

h_n = minimum required length of securing nut, in mm, *see* Fig. 13.2.9

$f = \dfrac{\delta_{CT}}{\delta_{GH}}$

$f_M = \dfrac{\delta_{CTM}}{\delta_{GHM}}$

k_{min} = taken as k_0, where σ_0 is the minimum nominal upper yield point of the key, stock or coupling material, in N/mm^2, whichever is less
$\cancel{k_0}\,k_o$ = material factor as defined in Table 13.2.3, for the appropriate item
l_t = length of taper, in mm
p_M = required mean grip stress, in N/mm^2
w = corresponding push-up of rudder stock, in mm
A_{key} = recommended minimum effective sectional area of the key in shear, in cm^2
H = length of the key, in mm
M_T = rudder torque, in Nm, as given in Table 13.2.5
P_R = effective weight of rudder, in N (kgf)
$\cancel{P_u}\,P_U$,$\cancel{P_0}\,P_O$ = corresponding push-up, pull-off loads respectively, in N (kgf)
δ_g = minimum external thread diameter, in mm, *see* Fig. 13.2.9
δ_n = minimum outer diameter of nut, in mm, *see* Fig. 13.2.9
δ_{CT} = diameter of coupling taper in any position, in mm
δ_{CTM} = mean diameter of coupling taper, in mm

$= \dfrac{\delta_S + \delta_{SU}}{2}$

δ_{GH} = external diameter of gudgeon housing at any position, in mm
δ_{GHM} = mean external diameter of gudgeon housing, in mm
δ_{key} = minimum thickness of key. *See* Fig. 13.2.9
δ_S = basic stock diameter as defined in Table 13.2.3, in mm
δ_{SU} = *see* Fig. 13.2.9, in mm
$\cancel{\sigma_0}\,\sigma_o$ = minimum yield stress of stock and gudgeon material, in N/mm^2 (kgf/mm^2) $\cancel{\sigma_0}\,\sigma_o$ is not to be taken greater than 70 per cent of the ultimate tensile strength or 450 N/mm^2 (45,9 kgf/mm^2) whichever is the lesser

θ_t = taper of conical coupling, on the diameter, e.g. $\dfrac{1}{15} = 0{,}067$

K_1, K_2, K_3 = constants depending on the type of assembly adopted as follows:

Part 6, Chapter 1

Control Engineering Systems

CORRIGENDUM

■ *Section 2* Essential features for control, alarm and safety systems

2.8 Fire detection alarm systems

2.8.1 Where an automatic fire detection system is to be fitted in a machinery space the requirements of 2.8.2 to 2.8.14 are to be satisfied. *See also* SOLAS 1974 as amended Reg. II-2/C,7, or ~~Ch 4,4~~ Chapter 4 as applicable.

Part 7, Chapter 15

On-Shore Power Supplies

CORRIGENDUM

■ *Section 5* Control and monitoring

5.3 Emergency Shut-Down

5.3.3 For high-voltage connections, the Connection Equipment power connections are also to be discharged so that they are safe to touch following the isolation from ship and shore electrical power supplies required by 5.3.2 in as short a time as practicable. Where earthing of connecting external equipment by ship equipment would not be permitted by the authorities responsible for the external equipment, details are to be submitted prior to connection for consideration. The submission is to detail alternative proposals for personnel protection and Connection Equipment power conductors discharge in the event of activation of the Emergency Shut-Down facilities.

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